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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/038,273 | 12/31/2001 | Steven Todd Weybrew | 64860.P2718 | 6547 |

7590 07/21/2004

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EXAMINER

CASCHERA, ANTONIO A

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2676

DATE MAILED: 07/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) |
|------------------------------|------------------------|---------------------|
| | 10/038,273 | WEYBREW ET AL. |
| | Examiner | Art Unit |
| | Antonio A Caschera | 2676 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 26 April 2004.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-40 is/are pending in the application.
4a) Of the above claim(s) 1-30 is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 31,32,36 and 37 is/are rejected.

7) Claim(s) 33-35 and 37-40 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 31 December 2001 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
5) Notice of Informal Patent Application (PTO-152)
6) Other: ____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group III (claims 31-35 and 36-40) in Paper No. 6 is acknowledged.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 31, 32, 36 and 37 rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (U.S. Patent 4,991,014) in view of Lake (U.S. Patent 5,416,529).

In reference to claims 31 and 36, Takahashi et al. discloses a video picture composition system for displaying a plurality of video signals on a display device (see column 1, lines 6-8 of Takahashi et al.). Takahashi et al. discloses utilizing a key signal to specify the position, size and shape of each picture element of the display (see column 1, lines 15-17). Takahashi et al. further discloses a key signal producing apparatus comprising a key signal generator for generating key signals and first and second memories for storing the key signals (see column 1, lines 61-68). Takahashi et al. also discloses the key signal generator and write controller coupled to the first and second memories (see #1 and 4-6 of Figure 2). Note, the office interprets the first and second memories, together, equivalent to the vector file of applicant's claims and taken

alone, equivalent to the vector registers of applicant's claims. Takahashi et al. does not explicitly disclose the video composition system comprising a vector look up unit adapted to look up a vector of data items however Lake does. Lake discloses methods and systems for mixing or combining digital video signals (see column 1, lines 7-8 of Lake). Lake discloses the system comprising a key processing unit which is further comprised of a key array lookup table (LUT) (see column 5, lines 13-25 and #2 and 13 of Figure 2). Lake also discloses the key processing unit loaded with array of key values (see column 5, lines 23-24) which in turn allows the office to interpret Lake to inherently load an array of key parameters (I_k , g_k , v and c_k) one for each pixel input. Lake discloses producing two key signals (c_g and c_v) from these parameters which the office interprets are functionally equivalent to the first and second blending factors of applicant's claims as these two keys are applied to two separate images being combined (see "Background Picture", " c_v ", "Insert Picture" and " c_g " of Figure 2). Lake then discloses summing these signals together in a "fade to single color" operation (see column 6, lines 7-14) producing an image attribute color for a blended image. Lake does not explicitly disclose utilizing a plurality of look up tables, looking data items up simultaneously, in the key processing unit however, at the time the invention was made, it would have been obvious to one of ordinary skill in the art to implement multiple LUT's in order to compensate for various key signal data input methods selected by "key selector" switch of Figure 2. Applicant has not disclosed that implementing multiple key LUT's provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the single LUT implementation of Lake because the feature of having multiple LUT tables instead of a single LUT performing similar functions is a

matter of design choice as preferred by the designer and to which best suits the application at hand. Therefore, it would have been obvious to one of ordinary skill in this art to modify Lake to obtain the invention as specified in claims 31 and 36. Note, in reference to claim 36, since Lake discloses producing a key signal for each input pixel and input parameter (I_k , g_k , v and c_k), the office interprets Lake to inherently disclose loading a second array of key parameters into memory. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the image/video key storing techniques Takahashi et al. with the image key combining techniques of Lake in order to improve the efficiency and reduce costs of hardware involved in conventional video combining circuitry (see column 3, lines 49-61 of Lake).

In reference to claims 32 and 37, Takahashi et al. and Lake disclose all of the claim limitations as applied to claims 31 and 36 respectively above in addition, Lake discloses the two key signals being of floating point origin since the parameters used in calculating these values are of floating point origin (see column 3, lines 23-27 and column 5, lines 35-38 and 57).

Allowable Subject Matter

3. Claims 33-35 and 38-40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In reference to claims 33 and 38, the prior art of record (Takahashi et al. (U.S. Patent 4,991,014) and Lake (U.S. Patent 5,416,529)) does not explicitly disclose the vector processing unit replicating the first subset of the vector keys as a second subset of the first vector indices for

looking up second blending factors for the second image, in combination with the further limitations of claims 33 and 38.

In reference to claims 34 and 39, claims 34 and 39 are dependent upon objected to claims 33 and 38 and are therefore also objected to.

In reference to claims 35 and 40, the prior art of record (Takahashi et al. (U.S. Patent 4,991,014) and Lake (U.S. Patent 5,416,529)) does not explicitly disclose the vector processing unit generating a first vector of indices wherein one key is replicated as a first plurality of indices in the first vector of indices for looking up a plurality of bit segments of a first blending factor, in combination with the further limitations of claims 35 and 40.

References Cited

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- a. Jackson et al. (U.S. Patent 4,851,912)
 - Jackson et al. discloses an apparatus for combining video signals utilizing key signal factors.
- b. Yamashita et al. (U.S. Patent 5,517,437)
 - Yamashita et al. discloses an alpha blending apparatus for blending two images at predetermined ratios.
- c. Gehrman (U.S. Patent 5,644,365)
 - Gehrman discloses a method and circuit for generating a composite video signal formed from a foreground signal and a background signal.

d. Trivedi et al. (U.S. Patent 6,693,643 B1)

- Trivedi et al. discloses a method and apparatus for color space conversion using vector registers and vector key processing.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Antonio Caschera whose telephone number is (703) 305-1391. The examiner can normally be reached Monday-Thursday and alternate Fridays between 7:00 AM and 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella, can be reached at (703)-308-6829.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Art Unit: 2676

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

aac

5/27/04



Ulka J. Chauhan
PRIMARY EXAMINER